

# AMPHETAMINE SUBSTANCES AND MENTAL ILLNESS IN NORTHERN IRELAND

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THE use of amphetamine and its analogues as stimulants and as slimming aids is well known. It is not so widely appreciated that they can produce both acute psychiatric disturbances and addiction. Young and Scoville (1938) were the first to describe a paranoid illness in three patients who were taking amphetamine for narcolepsy. Subsequently other reports confirmed the association of this psychosis with amphetamine, but only six cases were recorded in Great Britain prior to 1956. Connell (1958), in a prospective study, recorded forty-two cases in a three-year period showing the problem to be more common than had been appreciated. He found it impossible to separate the condition from paranoid schizophrenia unless there was evidence of ingestion of the drug and differentiated the two groups by testing the patient's urine for amphetamine end products.

In other cultures amphetamine abuse is a serious problem. For instance, in 1954 the Pharmacist Association of Japan estimated that one and a half millions of their population of eighty-three millions abused the drug. In one survey of fifty-two male amphetamine addicts, auditory hallucinations and paranoid delusions featured in most cases (Hara et al., 1954). Sakurai surveyed 110 addicts, finding 90 per cent. with symptoms resembling schizophrenia. While most cases recovered in thirty days, some needed at least fifty days for their symptoms to disappear. The whole Japanese problem was the subject of a memorandum presented by Masaki to the World Health Organization in 1956.

In Northern Ireland within twenty-eight months twenty-seven patients (about 2 per cent. of total referrals in the same period) have been seen at this department in whom amphetamine compounds or phenmetrazine have played an important part in their illnesses. There were nineteen females and eight males with ages ranging from 20 to 56 years. They separated easily into three groups. One group presented with symptoms clinically indistinguishable from paranoid schizophrenia, a second contained those who were habituated or addicted, and the remainder had miscellaneous symptoms, probably attributable to amphetamine, as withdrawal of the drug resulted in their disappearance.

## I. SCHIZOPHRENIC-LIKE GROUP.

The ages of these five patients—four females and one male—ranged from 22 to 46 years. The onset of illness was acute in four, but one woman had been ill for ten years.

All were tense, evasive, and suspicious. Two were over-active, talked excessively and at times their conversation was incoherent. Disorders of thought, including

thought-blocking and illogicality, occurred. Objectively mood was shallow, but subjectively there were complaints of depression. Ideas of reference were described in that newspapers, television, and radio were felt to be making specific and personal comments. The prominent feature of all was the presence of paranoid delusions. The two married women alleged that their husbands were trying to poison them and were being unfaithful. The male patient felt the police were accusing him of a serious crime and other misdemeanours. Another felt that ugly rumours were circulating about her past. Somehow everything would be altered and made acceptable if she slashed her wrist and lost some blood. Various hallucinations, both auditory and visual, were described. The auditory form was frequently of God's voice and some complained of hearing bells. In the visual sphere one patient remarked that she had seen the Virgin Mary, who winked at her. Another was plagued by the staring eyes of an old man.

These patients were at all times correctly orientated, though distractible, with poor powers of attention and concentration.

Initially only one patient admitted taking drugs and laboratory evidence was necessary to decide that these substances were involved in the illnesses of the others. Even when this was presented, three persisted in their denial.

During the early part of his stay in hospital, one patient developed a pyrexia. Investigation showed the only abnormality to be a high excretion of amine in the urine and amphetamine may have been responsible for this rise in temperature which settled with conservative measures.

## II. THE GROUP OF PATIENTS DEPENDENT ON THESE DRUGS.

There were eighteen patients—twelve females and six males—in this group, and their ages ranged from 20 to 56 years. This number could be divided into two sub-groups. Firstly, the so-called "symptomatic addicts" (Meerloo, 1952), that is people who at different times would be dependent on various drugs. There were six patients in this sub-group. As well as amphetamine, five had been dependent on alcohol at times, five had taken barbiturates, and one pethidine. The other sub-group of twelve patients took these drugs alone. Ten had started in an attempt to increase energy and drive, and two to slim. Any benefit experienced was short-lived and when seen all were agitated and depressed in spite of having increased the dose. Routine tasks were impossible for them without amphetamine, and for some it was necessary to enable them to get out of bed.

## III. THE GROUP WITH MISCELLANEOUS SYMPTOMS ATTRIBUTABLE TO AMPHETAMINE.

Side effects of amphetamine were prominent as presenting symptoms in four patients. Two were referred with anxiety, tension, and restlessness. Dysmenorrhœa was being treated in one, depression in the other. With immediate withdrawal, the additional symptoms regressed rapidly. As psychological efficiency is reputed to be enhanced by these preparations, it was prescribed for a businessman who had subjective complaints of memory loss and poor concentration. The result

was to make him tense and anxious, increasing his memory difficulty and seriously decreasing his efficiency at work. There was a dramatic overall improvement following amphetamine withdrawal. In the fourth instance, the patient was given amphetamine for apathy and tiredness, the result of domestic difficulty. Severe headache and copious vomiting began suddenly and were relieved as quickly by discontinuing amphetamine. The original symptoms of these four patients did not respond to the medication and became rapidly submerged by side effects.

#### DISCUSSION.

The evidence presented suggests strongly that misuse of amphetamine occurs in this community. About 2 per cent. of referrals have, as their main complaints, symptoms caused by amphetamine. This figure is probably an underestimate as the presenting symptoms are not specific and it has not been possible as yet to introduce the test for urinary amine as a routine. Again, these patients are often reluctant to admit their dependence. The experience with this group was that they denied taking these substances, sometimes even when confronted with laboratory evidence. This was in contrast to the patients from a different cultural background who usually admitted taking the drugs (Connell, 1958). Consequently considerable importance is placed on the laboratory tests. Even when misuse was admitted, evidence from other sources showed that the amount stated was usually a very conservative estimate, a situation also found with alcoholics. Probably this substance should be looked for routinely in the urine of all psychiatric patients. It is much more commonly found than either a positive Wasserman reaction or a raised blood bromide.

It has been stated that recovery from the schizophreniform illness should take place in one week once the drug is withdrawn (Connell, 1958), and if longer is taken the diagnosis should be revised. On the other hand, Sakurai concluded that some patients may need over fifty days to recover. Our experience would possibly reconcile these statements. The longer period may be necessary because, in fact, the patient continues to take a reduced dose, evading the strictest supervision. As Sakurai had no laboratory tests available at that time, it was impossible to confirm abstinence, which is necessary for prompt recovery.

In a number of published cases a raised temperature has been associated with amphetamine consumption and death in hyperpyrexia has occurred. (Gericke (1945), Mitchell and Denton (1950), Pretorius (1953), Bernheim and Cox (1960), Jordan and Hampson (1960).) The pyrexia shown by one of these patients could be explained on this basis. In view of the secretiveness shown by patients dependent on these products, this cause should be considered in the differential diagnosis of pyrexia of unknown origin.

It is apparent that a real problem exists in this community, the extent of which remains to be determined. These substances have few and very limited therapeutic indications, and their widespread use greatly exceeds any possible need. The risks to mental and physical health should be taken into account in every instance where their use is considered either alone or in the various proprietary preparations in which they are combined with other drugs. Martindale (1958) mentions

twenty-eight such preparations, and further combinations are still being introduced. In spite of the stringent regulations applicable to Schedule 4 drugs, it has not been possible to prevent misuse of these compounds but it is hoped that a greater awareness of the problem may help to rectify the situation.

#### SUMMARY.

The misuse of amphetamine causes illness. Some forms of presentation are mentioned and discussed. The diagnosis may be overlooked as the symptomatology is not specific and reliance is placed on laboratory tests.

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#### REVIEW

**SURGERY IS DESTINED TO THE PRACTICE OF MEDICINE.** By Sir Reginald Watson-Jones. (Pp. 81; figs. 77. 21s.) Edinburgh and London: E. & S. Livingstone, 1961.

THIS monograph, which was the Hunterian Oration given by Sir Reginald Watson-Jones to the Royal College of Surgeons of England in 1959, traces the life of John Hunter and his contribution to surgery. As the title suggests, Sir Reginald has taken his stand, along with Hunter, that the last part of surgery, namely operating, is a reflection on the healing art. In orthopædic surgery the author indicates what many have discovered, that the art of surgery is ending surgery. The decline of cutting operations in surgical treatment is enlarged upon, and the triumphs of medicine in what were once surgical fields are enumerated. Even in the treatment of injuries, surgery is ending surgery, not so much by the surgeon giving up cutting, but by the fact that he should only cut once at the proper time and with proper preparation and consideration.

Sir Reginald stresses that the days are over for multiple surgical adventures in orthopædic surgery. The pattern of orthopædic medicine replacing orthopædic surgery has depended on advances in many fields and the basic sciences. Sir Reginald stresses that orthopædic surgeons of mature thought have for so long recognised that not more than a small percentage of their patients need operative treatment, that it may be in other fields of surgery that this principle is accepted less readily.

The monograph ends by stressing that in fact surgery is medicine.

This monograph is a most stimulating one and should be read by all interested in the advances of medicine, and by all who are concerned in relegating surgery to its proper place in the therapeutics of orthopædic illness.

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